Climate Dynamics and Experimental Prediction

FY 2009 Information Sheet

The National Centers for Environmental Prediction (NCEP) and the Climate Program Office are jointly sponsoring the Climate Test Bed (CTB) at NCEP. The goal of the CTB is to accelerate the transition of research advancements into improved NOAA operational climate forecasts, products and applications. The CTB will provide an operational testing environment to support short-term competitive applied research and development projects that will result in a direct influence on operational methodologies, and/or new guidance products or techniques leading to improved quality and applicability of operational forecasts. Scientists from the broad research community, other NOAA organizations and NCEP are expected to jointly carry out competitive CTB projects. For further details on the Climate Test Bed, visit http://www.cpc.ncep.noaa.gov/products/ctb/

In FY 2009, NOAA is soliciting proposals to initiate CTB projects under the Climate Dynamics and Experimental Prediction (CDEP) program. Due to limited available funding, the priority areas are focused on improvements to the NCEP Climate Forecast System, testing multi-model ensembles, improving week 2-to-seasonal climate forecast products and applications, especially for drought, and regional coordination and collaboration activities that will focus on development of regionally-specific climate applications. Priority areas include (note that the areas do not appear in order of priority):

1) Climate Forecast System Improvements
Proposals are solicited to enhance the performance of the NCEP coupled Climate Forecast System (CFS) on monthly-to-seasonal timescales. CTB encourages proposals to accelerate and enhance future CFS upgrades, including testing and assessment of process-level advances to the ocean-atmosphere-land-cryosphere model and assimilation components, generation and evaluation of coupled CFS reanalysis and retrospective forecasts, and improvements to the CFS monthly-to-seasonal forecast suite. Proposals that diagnose biases in CFS and develop strategies to reduce them are also invited.

2) Evaluation of Multi-Model Ensembles
CTB encourages proposals for evaluation of various Multi-Model Ensemble (MME) approaches that employ the CFS together with other national and international fully coupled (ocean-atmosphere-land) models. This includes efforts to develop MME prediction systems and consolidation techniques that take advantage of the independent skill of the individual components. Additionally, proposals will be considered to assemble reforecast datasets for effective calibration and generation of MME-based forecast products. Investigators are encouraged to collaborate with the producers of operational models and the research community for consideration of transition of effective approaches into operational mode.

3) Enhancing Operational Drought Forecast Products and Applications

CTB seeks proposals to improve the current suite of operational monthly-to-seasonal drought outlook products and applications. Proposals to develop and enhance objective drought monitoring and forecast tools and objective verification are encouraged, including downscaled regional/sectoral forecasts, assimilation of new data into drought forecasts, improving monthly-to-seasonal forecasts based on land-atmosphere coupling, products that separate agricultural and hydrological drought, and improved drought forecast application products for the National Integrated Drought Information System (NIDIS) / Drought Early Warning System (DEWS). Investigators are encouraged to collaborate with the producers of operational drought outlook and analysis products, and with the drought applications research community for requirements on new and improved climate service products.

Prospective investigators are strongly encouraged to submit a Letter of Intent (LOI) by the published deadline. The CTB Science Management Team will review each LOI, based solely on the criteria of Importance/Relevance and Applicability. All PIs will be notified whether a full proposal is encouraged or discouraged based on the review of their LOI. Further, prospective investigators are strongly encouraged to identify a Co-PI at NCEP who is fully engaged in the development of the LOI and who has agreed to collaborate in the project should the full proposal be recommended for support by the competitive merit review.

This solicitation is intended to support competitive transition projects led by scientists from the research community outside NOAA operational center(s). Proposals led by PIs from NOAA operational center(s) will be discouraged. Proposals should not request salary support for Federal PIs and co-PIs from CTB funds. Funding requests by NOAA operational center(s) for collaboration in the project (if any) should NOT be included in the proposal submission to grants.gov. The total budget request for each full proposal should not exceed $200K per year. The estimated computer resources available at NCEP for FY09 proposals are 350 Units. Each Unit corresponds to a 10-year simulation run with the next generation CFS (atmospheric resolution T126L64 and ocean resolution 1 degree with1/3 of a degree resolution from 10S to 10N with 40 levels. Proposals should include estimated computer requirements in Units.

Each supported project under CTB will be funded through a Cooperative Agreement (CA).

For further information, investigators may contact the CDEP program manager (Chet Ropelewski, Chet.Ropelewski@noaa.gov)